

WHAT IS CLAIMED IS:

1. A mobile communication system, comprising:

a mobile node device according to Mobile IP protocol;

5 an AAAH server device according to a prescribed AAA protocol which is provided at a home network of the mobile node device, for supporting an authentication and accounting service with respect to packet communications by the mobile node device;

10 the mobile node device having a transmission unit configured to transmit an authentication and accounting request for requesting a desired accounting service at the AAAH server device; and

the AAAH server device having:

15 an information recording unit configured to record communication fee information regarding a communication fee to be charged to a user of the mobile node device; and

20 a processing unit configured to carry out authentication and accounting processes for the packet communications by the mobile node device according to the communication fee information, and a processing for providing the desired accounting service according to the authentication and accounting request which is received from the mobile node device when it is judged that  
25 authentication succeeded according to authentication information contained in the authentication and accounting request.

2. The mobile communication system of claim 1, wherein  
30 the processing unit of the AAAH server device is operated such that, when the desired accounting service is a processing for transferring a charged amount to be paid to another party by the user of the mobile node device to the communication fee of the user of the mobile node device,  
35 the communication fee information is recorded in the

information recording unit according to the charged amount.

3. The mobile communication system of claim 2, wherein the processing unit also carries out a procedure for paying  
5 the charged amount to said another party when the desired accounting service is a payment of the charged amount to said another party.

4. The mobile communication system of claim 2, wherein  
10 the processing unit of the AAAH server device is operated such that, when the desired accounting service is the processing for transferring the charged amount to be paid to said another party by the user of the mobile node device to the communication fee of the user of the mobile node  
15 device, the processing unit notifies information regarding the authentication and accounting request from the mobile node device to another AAA server device for supporting the authentication and accounting service with respect to a mobile node of said another party.

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5. The mobile communication system of claim 2, wherein the processing unit of the AAAH server device is operated such that, when the desired accounting service is acquisition of a charged amount information regarding the  
25 charged amount to be paid to said another party by the user of the mobile node device, the processing unit acquires the charged amount information from a device providing the charged amount information and transfers the charged amount information to the mobile node device.

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6. The mobile communication system of claim 1, further comprising:  
an AAAF server device according to the prescribed AAA protocol which is provided at a visited network of the  
35 mobile node device, for supporting the authentication and

accounting service with respect to packet communications by the mobile node device, the AAAF server device having a transmission unit configured to transmit another authentication and accounting request for requesting an  
5 accounting with respect to the packet communications by the mobile node device that has moved to the visited network;

wherein the processing unit of the AAAH server device is operated such that, when said another authentication and accounting request is received from the AAAF server device  
10 and it is judged that authentication succeeded according to an authentication information contained in said another authentication and accounting request, the communication fee information is recorded in the information recording unit according to information regarding the accounting  
15 contained in said another authentication and accounting request.

7. A mobile node device according to Mobile IP protocol, comprising:

20 a Mobile IP processing unit configured to carry out a procedure for receiving a packet transfer service according to the Mobile IP by a home agent device provided at a home network of the mobile node device and a foreign agent device provided at a visited network of the mobile node  
25 device; and

an AAA processing unit configured to carry out a procedure for receiving a desired accounting service, with respect to an AAAH server device according to a prescribed AAA protocol which is provided at the home network for  
30 managing information regarding a communication fee of the mobile node device, while receiving the packet transfer service at the Mobile IP processing unit.

8. The mobile node device of claim 7, wherein the AAA  
35 processing unit carries out a procedure for requesting

transfer of a charged amount to be paid to another party by a user of the mobile node device to the communication fee of the user of the mobile node device.

5 9. The mobile node device of claim 8, wherein the processing unit carries out a procedure for requesting payment of the charged amount to said another party.

10 10. The mobile node device of claim 8, wherein the processing unit carries out a procedure for requesting acquisition of a charged amount information regarding the charged amount to be paid to said another party by the user of the mobile node device.

15 11. An AAAH server device according to a prescribed AAA protocol which is provided at a home network of a mobile node device according to Mobile IP protocol in a mobile communication system, for supporting an authentication and accounting service with respect to packet communications by  
20 the mobile node device, the AAAH server device comprising:  
an information recording unit configured to record communication fee information regarding a communication fee to be charged to a user of the mobile node device; and  
a processing unit configured to carry out  
25 authentication and accounting processes for the packet communications by the mobile node device according to the communication fee information, and a procedure for providing a desired accounting service according to an authentication and accounting request which is received  
30 from the mobile node device when it is judged that authentication succeeded according to authentication information contained in the authentication and accounting request.

35 12. The AAAH server device of claim 11, wherein the

processing unit is operated such that, when the desired  
accounting service is a processing for transferring a  
charged amount to be paid to another party by the user of  
the mobile node device to the communication fee of the user  
5 of the mobile node device, the communication fee  
information is recorded in the information recording unit  
according to the charged amount.

13. The AAAH server device of claim 12, wherein the  
10 processing unit also carries out a procedure for paying the  
charged amount to said another party when the desired  
accounting service is a payment of the charged amount to  
said another party.

14. The AAAH server device of claim 12, wherein the  
15 processing unit is operated such that, when the desired  
accounting service is the processing for transferring the  
charged amount to be paid to said another party by the user  
of the mobile node device to the communication fee of the  
20 user of the mobile node device, the processing unit  
notifies information regarding the authentication and  
accounting request from the mobile node device to another  
AAA server device for supporting the authentication and  
accounting service with respect to a mobile node of said  
25 another party.

15. The AAAH server device of claim 12, wherein the  
processing unit is operated such that, when the desired  
accounting service is acquisition of a charged amount  
30 information regarding the charged amount to be paid to said  
another party by the user of the mobile node device, the  
processing unit acquires the charged amount information  
from a device providing the charged amount information and  
transfers the charged amount information to the mobile node  
35 device.

16. The AAAH server device of claim 11, wherein the mobile communication system has an AAAF server device according to the prescribed AAA protocol which is provided at a visited network of the mobile node device, for supporting the authentication and accounting service with respect to packet communications by the mobile node device and transmitting another authentication and accounting request for requesting an accounting with respect to the packet communications by the mobile node device that has moved to the visited network; and

the processing unit is operated such that, when said another authentication and accounting request is received from the AAAF server device and it is judged that authentication succeeded according to an authentication information contained in said another authentication and accounting request, the communication fee information is recorded in the information recording unit according to information regarding accounting contained in said another authentication and accounting request.

17. A method for receiving an authentication and accounting service at a mobile node device according to Mobile IP protocol, the method comprising:

carrying out a procedure for receiving a packet transfer service according to the Mobile IP by a home agent device provided at a home network of the mobile node device and a foreign agent device provided at a visited network of the mobile node device; and

carrying out a procedure for receiving a service of a desired accounting service, with respect to an AAAH server device according to a prescribed AAA protocol which is provided at the home network for managing information regarding a communication fee of the mobile node device, while receiving the packet transfer service.



18. A method for providing an authentication and accounting service at an AAAH server device according to a prescribed AAA protocol which is provided at a home network of a mobile node device according to Mobile IP protocol in a mobile communication system, for supporting an authentication and accounting service with respect to packet communications by the mobile node device, the method comprising:

recording communication fee information regarding a communication fee to be charged to a user of the mobile node device; and

carrying out authentication and accounting processes for the packet communications by the mobile node device according to the communication fee information, and a procedure for providing a desired accounting service according to an authentication and accounting request which is received from the mobile node device when it is judged that authentication succeeded according to authentication information contained in the authentication and accounting request.

19. A method for providing a mobile node device information, comprising:

notifying information indicating a state of a mobile node device according to Mobile IP protocol from a prescribed server device which detected the state of the mobile node device to a WWW server device for providing information of the mobile node device; and

updating a display format of a prescribed display content corresponding to the mobile node device to a new display format corresponding to a notified state at a WWW page corresponding to the mobile node device provided by the WWW server device upon receiving the information indicating the state of the mobile node device.

20. A method for confirming a correspondent terminal, comprising:

transmitting a confirmation request from a first  
5 terminal device to a second terminal device which is a  
mobile node device according to Mobile IP protocol, before  
carrying out a call setup procedure from the first terminal  
device with respect to the second terminal device, the  
confirmation request containing an identification  
10 information including a host name or a set of a host name  
and a user name of the second terminal device as recognized  
by the first terminal device;

comparing the identification information contained in  
the confirmation request with an actual identification  
15 information including an actual host name or a set of an  
actual host name and an actual user name of the second  
terminal device, at the second terminal device upon  
receiving the confirmation request, and returning an  
affirmative response when the identification information  
20 contained in the confirmation request coincides with the  
actual identification information of the second terminal  
device or a negative response when the identification  
information contained in the confirmation request does not  
coincide with the actual identification information of the  
25 second terminal device, from the second terminal device to  
the first terminal device; and

carrying out the call setup procedure from the first  
terminal device with respect to the second terminal device  
when the affirmative response from the second terminal  
30 device is received at the first terminal device.

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